UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
WASHINGTON, D.C. 20250

FEB 8 1973

Honorable Gaylord Nelson
United States Senate

Dear Senator Nelson:

This is in response to your request of January 29 to Secretary Butz about research being done concerning dangerous health effects from potatoes.

We believe that the research referred to is a hypothesis advanced by Dr. James Renwick of the London School of Hygiene and Tropical Medicine. This hypothesis states that anencephaly and spina bifida, two birth defects in humans, could be prevented by the avoidance of an unidentified substance present in certain potato tubers, especially those affected with the late blight disease.

Because of the serious implications involved in the Renwick hypothesis, the Agricultural Research Service held a workshop in early November to evaluate the validity of the hypothesis. Knowledgeable persons from Federal and State agencies including National Institutes of Health, Food and Drug Administration, University of Maine, and Purdue University were convened in Washington, D.C., to consider aspects of a potential association between potatoes and birth defects and to develop needed research. Plans were made for initiating research to test the Renwick hypothesis and the expanded research is now underway. For example, cooperative animal feeding tests are being made with National Institutes of Health to measure any teratogenic effects of potatoes stressed by late blight and other diseases.

In addition, research has been underway for over 4 years on reducing the alkaloid constituents of potatoes that are known to have harmful effects on humans. As a result of this research the potato variety, Lenape, was removed from the commercial trade in 1970 because it was discovered to be higher than normal in the content of solanine. Solanine is an alkaloid that occurs in all potatoes, but when present in abnormally large amounts, such as in sun-greened potatoes, can cause such symptoms as stomach pain, lower temperature, vomiting, diarrhea, loss of sensation, eye pupil dilation, and even death.

This does not mean that our fruits and vegetables have suddenly become more dangerous than formerly. Far from it. The recent advances in chemical technology have made it possible to identify certain chemicals that previously could not be found. However, the significance of these compounds to human health will have to be determined. As a result of these new advances in scientific knowledge and technology, we are finding methods of making foods even more safe in the future.

You can be assured there is deep concern and genuine commitment on our part to conduct research dealing with food safety. We consequently appreciate your interest in this research.

Sincerely,

M. D. Levin
Acting Assistant Administrator
National Program Staff